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(S1)

Patent
52478.0417

IN THE CLAIMS:

1 1. (Previously Presented) A gas discharge panel, which comprises (a) a first
2 substrate and a second substrate facing each other across an interval, the interval forming a
3 discharge space and being filled with discharge gas, (b) pairs of electrodes for sustaining
4 discharge provided on at least one of the substrates, (c) a plurality of discharge cells formed in a
5 pattern along the electrode pairs, and (d) a plurality of phosphor layers (formed by baking a
6 phosphor film) and provided on the first substrate facing the discharge cells, each phosphor layer
7 corresponding to an illumination color of the discharge cell, and the gas discharge panel
8 displaying a color image by selectively illuminating the discharge cells, wherein

9 a plurality of gap members of a given shape are disposed at locations
10 corresponding to boundary areas between and excluding the center areas of the discharge cells,
11 so as to separate the first substrate and second substrate, and determine the interval between the
12 first substrate and second substrate.

1 2. (Original) The gas discharge panel of Claim 1, wherein
2 the electrode pairs and their surrounding structures are provided such that, when a
3 voltage is applied to the electrode pairs and sustaining discharge is caused, discharge primarily
4 occurs in the center of the discharge cells, rather than near the boundaries.

1 3. (Original) The gas discharge panel of Claim 2, wherein
2 the electrode pairs comprise a plurality of linear electrodes, provided in a stripe
3 pattern on the second substrate, and
4 an interval between the linear electrodes forming the pairs is smaller in the center
5 of the discharge cells than toward the boundaries of the discharge cells.

1 4. (Original) The gas discharge panel of Claim 2, wherein
2 each electrode pair has a transparent electrode, and
3 the transparent electrode has a shape such that an interval between the linear
4 electrodes forming the pair is smaller in the center of the discharge cell than toward the
5 boundaries of the discharge cell.

1 5. (Original) The gas discharge panel of Claim 2, wherein
2 each electrode pair is covered with a dielectric layer in an area toward the
3 discharge space, and
4 the dielectric layer has a thickness which is smaller in the center of the discharge
5 cell than toward the boundaries of the discharge cell.

1 6. (Original) The gas discharge panel of Claim 2, wherein
2 each electrode pair is covered with a dielectric layer in an area toward the
3 discharge space, and
4 the dielectric layer is covered with a layer of magnesium oxide in an area toward
5 the center of the discharge cell and excluding the boundary area.

1 7. (Previously Presented) The gas discharge panel of Claim 1, wherein
2 the second substrate has a black matrix formed in areas corresponding to
3 boundary areas.

1 8. (Previously Presented) The gas discharge panel of Claim 1, wherein
2 the phosphor layers are thinner towards the boundaries than in the center areas.

- 1 9. (Original) The gas discharge panel of Claim 8, wherein
2 ~~OVS~~ a dielectric layer is provided on the first substrate,
3 the phosphor layers are provided on the dielectric layer, and
4 the gap members are partially buried in the dielectric layer.
- 1 10. (Original) The gas discharge panel of Claim 8, wherein
2 the electrode pairs comprise a plurality of linear electrodes, provided in a stripe
3 pattern on the second substrate, and
4 the phosphor layers are provided in a stripe pattern in a direction which intersects
5 with the electrode pairs.
- 1 11. (Original) The gas discharge panel of Claim 1, wherein
2 a dielectric layer is provided on the second substrate, and
3 the gap members are partially buried in the dielectric layer.
- 1 12. (Original) The gas discharge panel of Claim 1, wherein
2 a phosphor element is applied to their surfaces of the gap members.
- 1 13. (Original) The gas discharge panel of Claim 1, wherein
2 the gap members have a spherical or rod-like shape.
- 1 14. (Original) The gas discharge panel of Claim 1, wherein
2 the gap members are in contact with at least one of the first substrate and second
3 substrate.
- 1 15-17. (Cancelled)

1 18. (Previously Presented) A gas discharge panel display device, which displays an
2 image by selectively illuminating the plurality of discharge cells, comprising:
3 the gas discharge panel of Claim 1, and
4 a driving unit, which applies a voltage to the electrode pairs for sustaining
5 discharge.

1 19. (Currently Amended) A method for production of a gas discharge panel, the
2 panel having discharge cells of each color arranged in a matrix pattern formed between a first
3 substrate and a second substrate, the production method comprising:
4 a phosphor layer forming process, for providing a phosphor layer corresponding
5 to an illumination color of each discharge cell on the first substrate,
6 a gap member distribution process, for disposing gap members of a given shape at
7 locations on the first substrate and or the second substrate corresponding to boundaries between
8 discharge cells, and
9 a stacking process, for joining the first substrate and the second substrate after gap
10 members have been applied to one of the substrates.

*not
necessary
this
step*

1 20-26. (Cancelled)

1 27. (Original) The gas discharge panel production method of Claim 19, wherein
2 the gap member distribution process includes:
3 an adhesive layer forming step, for providing an adhesive layer in areas of the
4 first substrate or the second substrate corresponding to the boundaries, and

5 a gap member distribution step, for spreading gap members over the adhesive
6 layer.

1 28. (Original) The gas discharge panel production method of Claim 27, wherein
2 the gap member distribution process includes, after the gap member distribution
3 step, a removal step, for removing the gap members located in areas of the first substrate or the
4 second substrate other than on the adhesive layer.

1 29-31. (Cancelled)

1 32. (Currently Amended) A method for production of a gas discharge panel,
2 comprising:

3 an electrode forming process, for forming electrodes on a first substrate,
4 a dielectric element material application process, for applying a dielectric element
5 material to cover the electrodes, the dielectric element material containing gap members,
6 a dielectric element baking process, for baking the applied dielectric element, and
7 after the dielectric element material application process, a stacking process, for
8 joining the first substrate to a second substrate.

1 33. (Cancelled)

1 34. (Previously Presented) The gas discharge panel production method of Claim 27,
2 wherein in the removal step, gap members are removed by blowing gas over or by agitating the
3 substrate to which gap members were applied.



1 35. (Previously Presented) The gas discharge panel of Claim 2, wherein
2 the second substrate has a black matrix formed in areas corresponding to
3 boundary areas.

1 36. (Previously Presented) The gas discharge panel of Claim 3, wherein
2 the second substrate has a black matrix formed in areas corresponding to
3 boundary areas.

1 37. (Previously Presented) The gas discharge panel of Claim 4, wherein
2 the second substrate has a black matrix formed in areas corresponding to
3 boundary areas.

1 38. (Previously Presented) The gas discharge panel of Claim 5, wherein
2 the second substrate has a black matrix formed in areas corresponding to
3 boundary areas.

1 39. (Previously Presented) The gas discharge panel of Claim 2, wherein
2 the phosphor layers are thinner towards the boundaries than in the center areas.
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1 40. (Previously Presented) The gas discharge panel of Claim 3, wherein
2 the phosphor layers are thinner towards the boundaries than in the center areas.

1 41. (Previously Presented) The gas discharge panel of Claim 4, wherein
2 the phosphor layers are thinner towards the boundaries than in the center areas.